

Applied Demography: Some Texas Examples

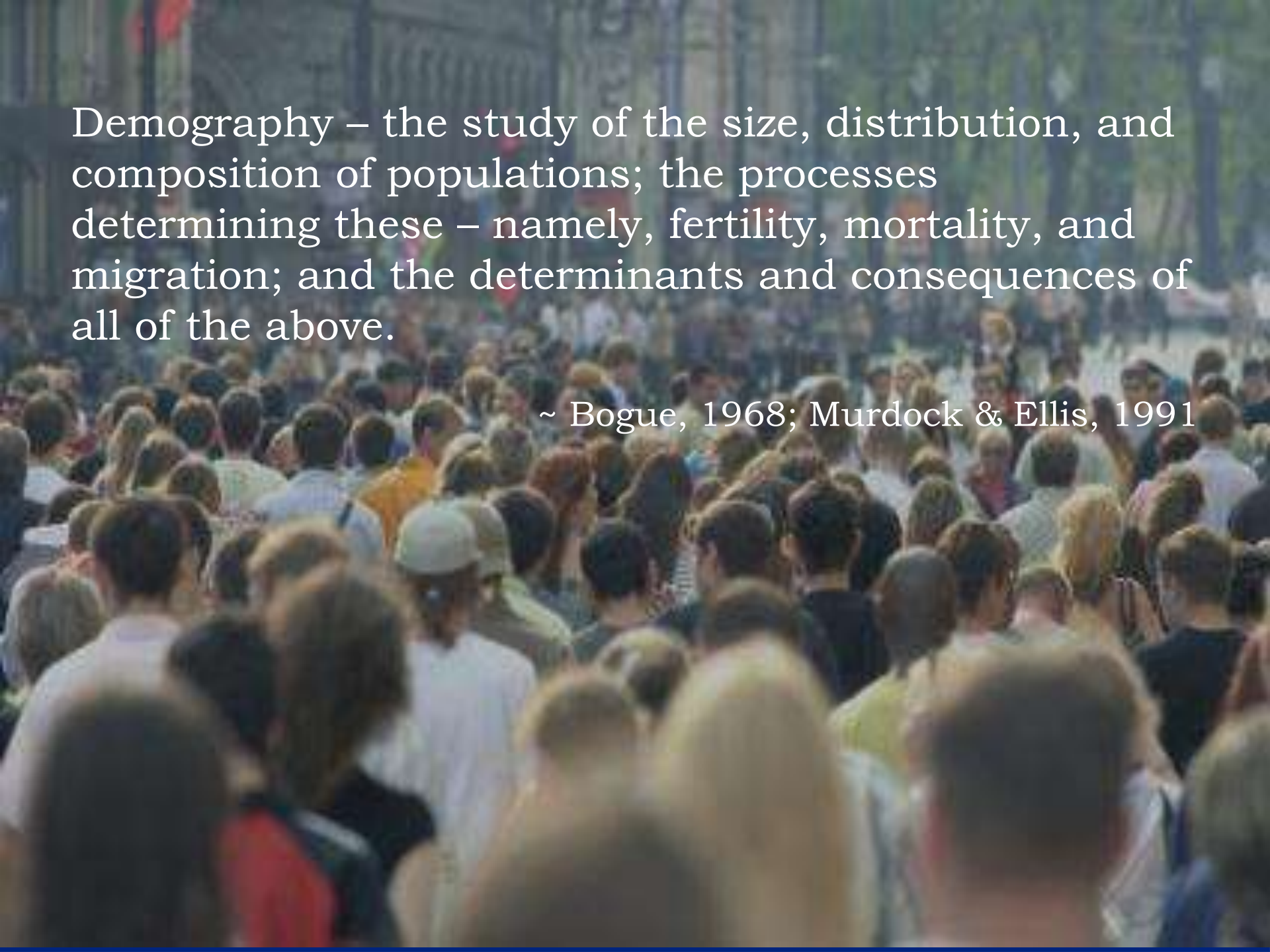
Texas State University

April 8, 2013
Round Rock, TX



Demography – the study of the size, distribution, and composition of populations; the processes determining these – namely, fertility, mortality, and migration; and the determinants and consequences of all of the above.

~ Bogue, 1968; Murdock & Ellis, 1991





Population Estimating Equation

$$P_1 = P_0 + B - D + I - O$$

where:

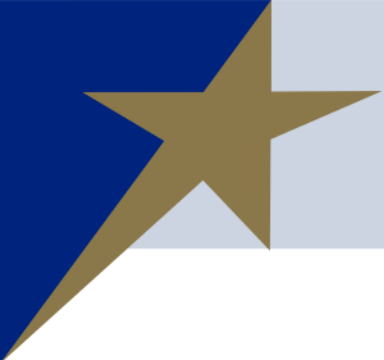
P_0 = the population at some earlier date

B = births

D = deaths

I = in-migration

O = out-migration



The Population Research Institute,
2.1 Kids: Stable Population
<http://youtu.be/zBS6f-JVvTY>



Mission

The Office of the State Demographer disseminates demographic and related socioeconomic data to the State of Texas and the general public. The State Demographer's Office monitors demographic and socioeconomic changes in the State in order to better inform the executive and legislative branches of Texas government. Special emphasis is placed on data that may be useful to policy makers in dealing with issues regarding the demand for state services.

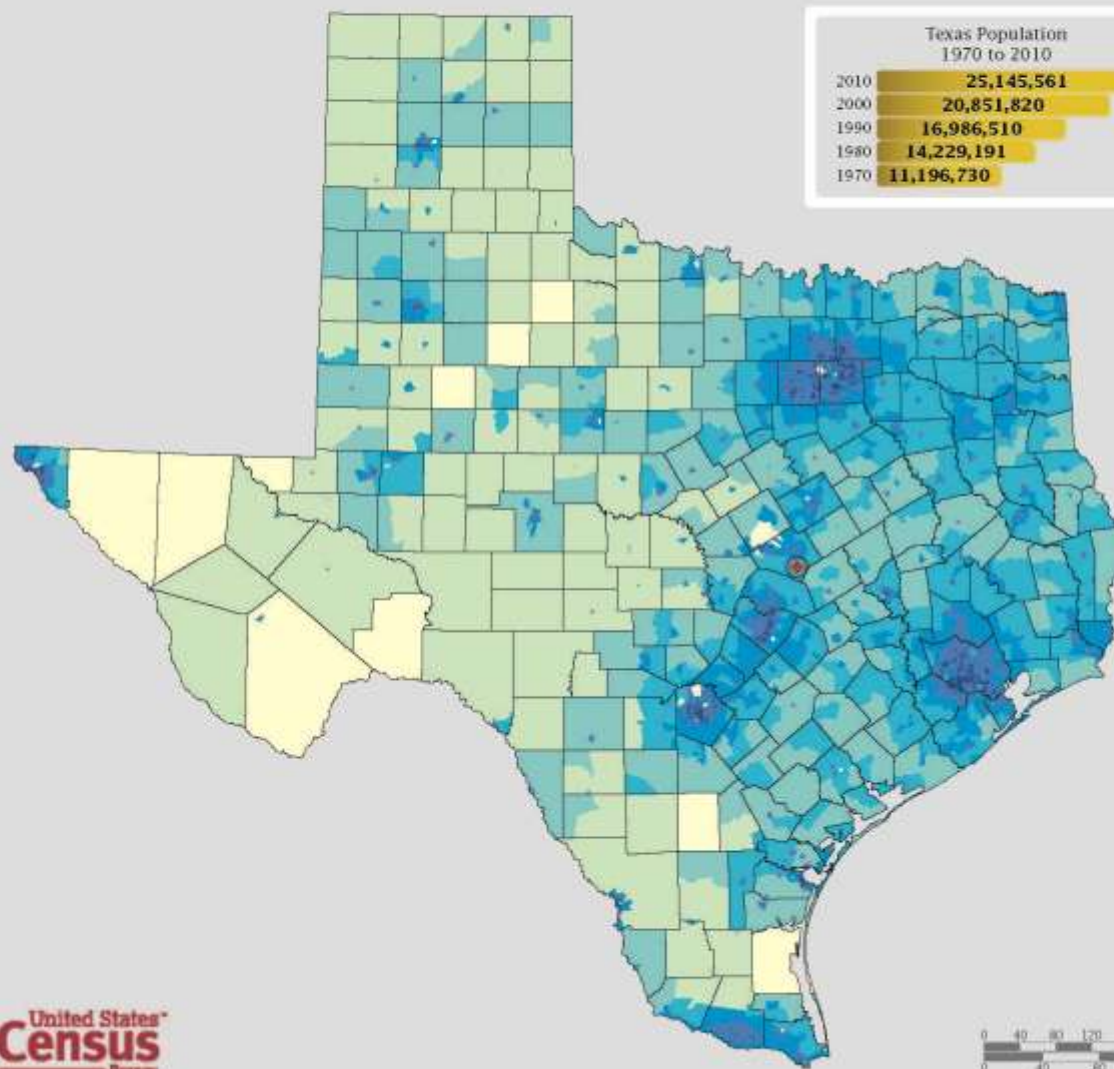


Meeting the Mission

- Data Portal, Publications, and Reports
<http://txsdc.utsa.edu/>
- Population Estimates and Projections Program
<http://txsdc.utsa.edu/Data/TPEPP/Estimates/Index.aspx>
- Resource Witness at Legislative Hearings
- Public Presentations
<http://osd.state.tx.us>
- Data Requests
- Custom Research Projects
- Annual Conference for Data Users and Applied Demography Conference

2010 Census: Texas Profile

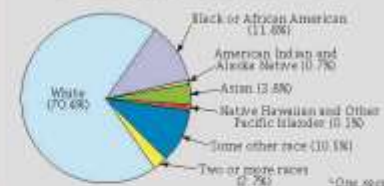
Population Density by Census Tract



Texas Population 1970 to 2010

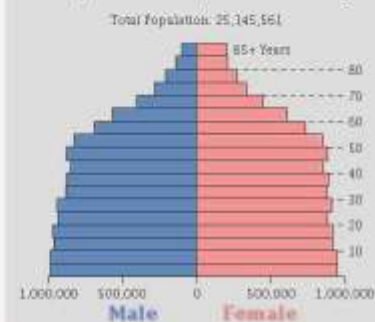
2010	25,145,561
2000	20,851,820
1990	16,986,510
1980	14,229,191
1970	11,196,730

State Race* Breakdown



Hispanic or Latino (of any race) makes up **37.6%** of the state population.

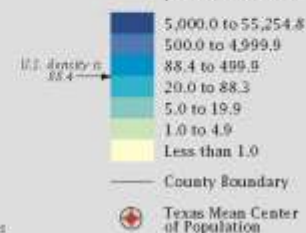
Population by Sex and Age



Housing Tenure



People per Square Mile by Census Tract





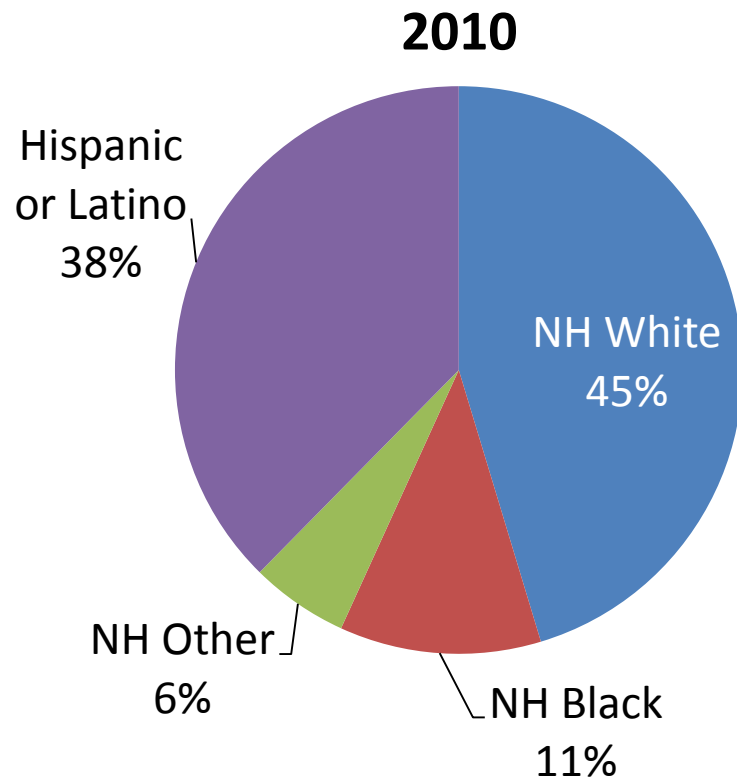
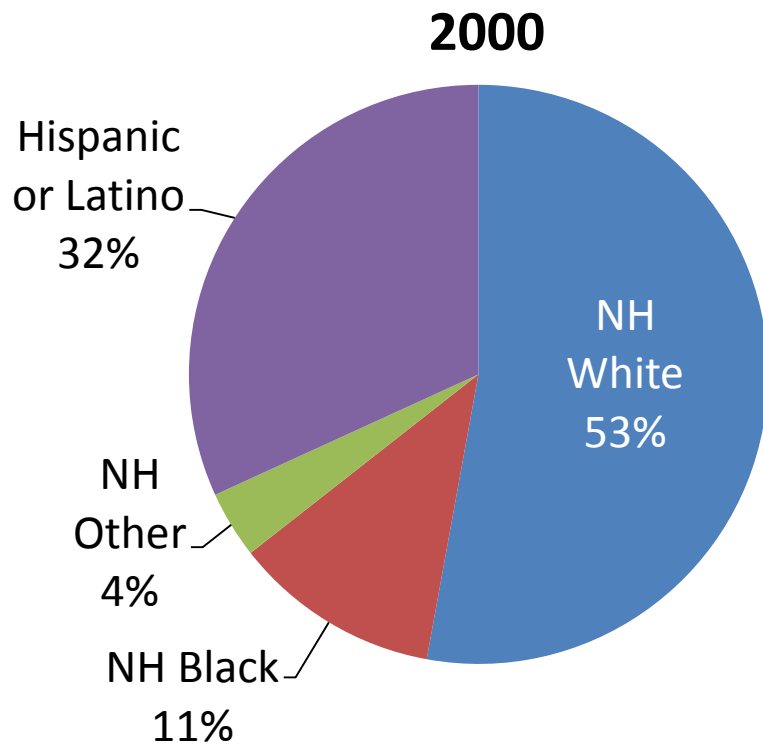
Growing States, 2000-2010

	2000 Population*	2010 Population*	Numerical Change 2000-2010	Percent Change 2000-2010
United States	281,421,906	308,745,538	27,323,632	9.7%
Texas	20,851,820	25,145,561	4,293,741	20.6%
California	33,871,648	37,253,956	3,382,308	10.0%
Florida	15,982,378	18,801,310	2,818,932	17.6%
Georgia	8,186,453	9,687,653	1,501,200	18.3%
North Carolina	8,049,313	9,535,483	1,486,170	18.5%
Arizona	5,130,632	6,392,017	1,261,385	24.6%

15.7% of numerical
change in U.S.

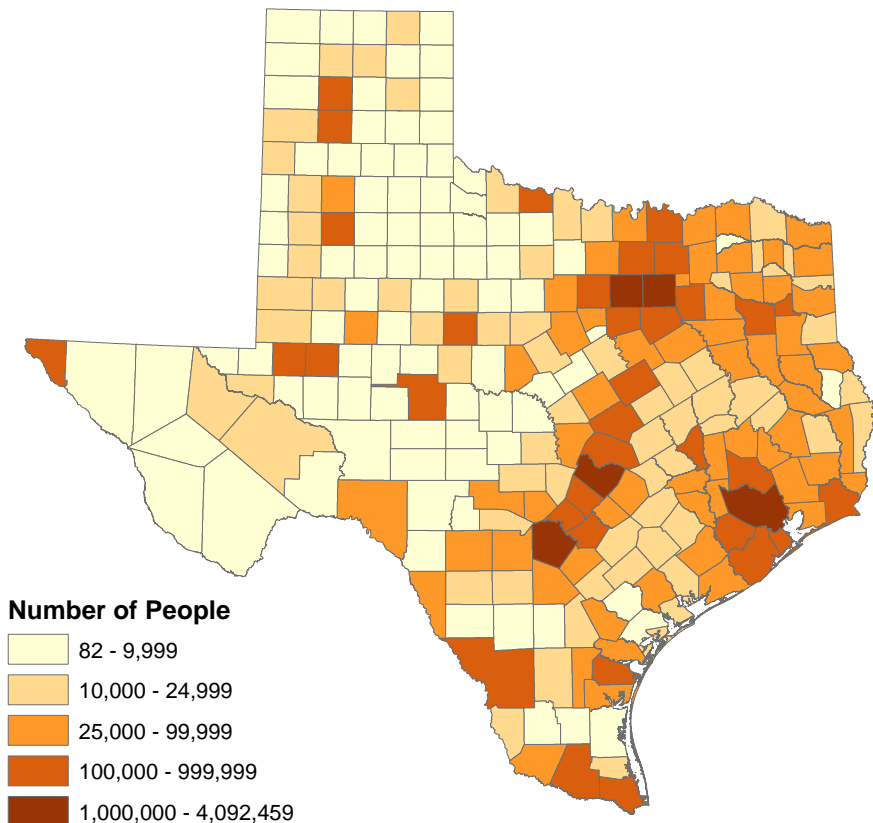
Note: Population values are decennial census counts for April 1, 2000 and April 1, 2010.
Source: U.S. Census Bureau. 2000 and 2010 Census Counts.

Texas Racial and Ethnic Composition, 2000 and 2010

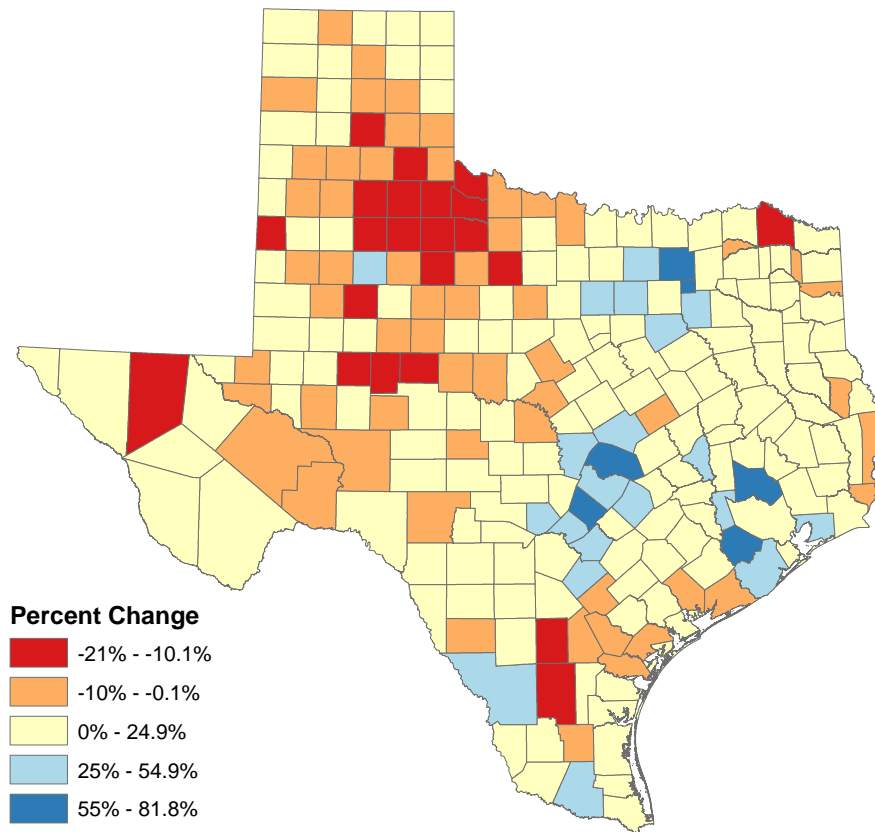


Total Population by County, 2010

Total Population

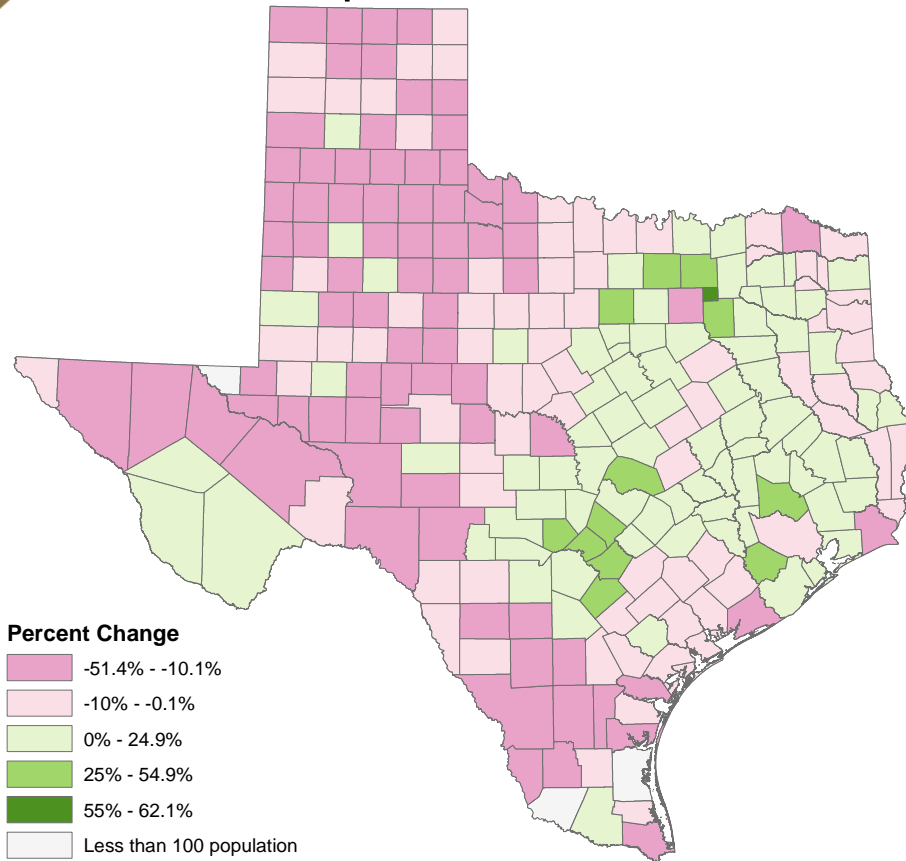


Population % Change, 2000 to 2010

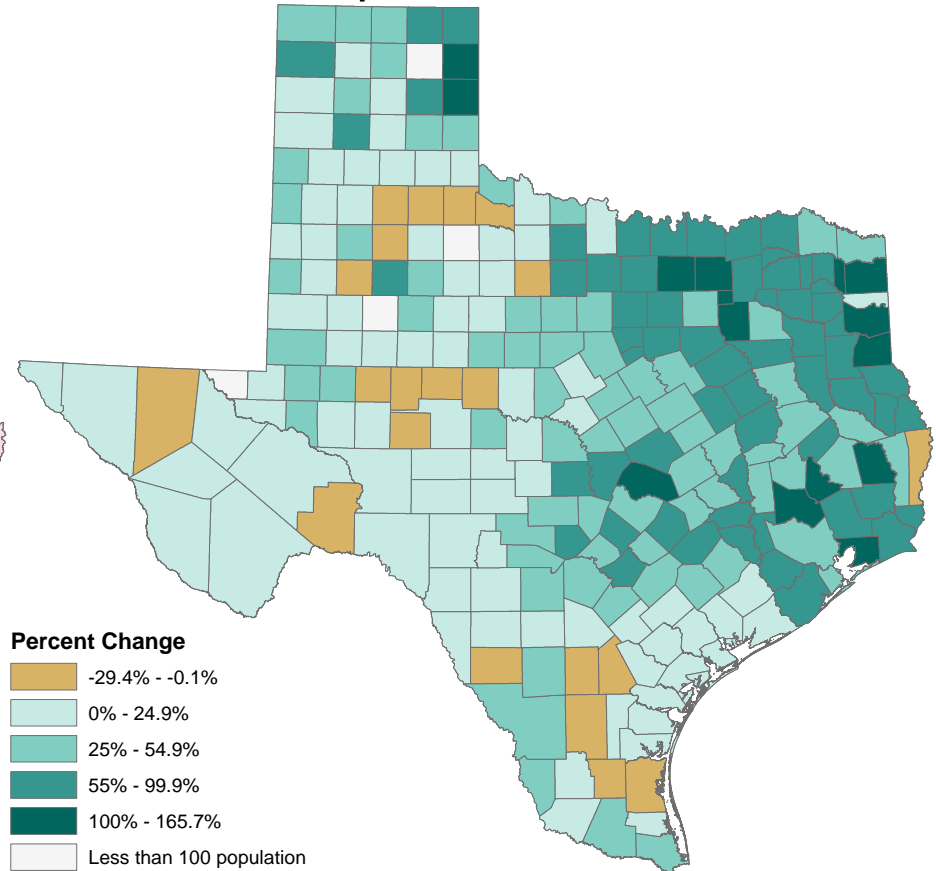


Percent Change in Population by County, 2000 to 2010

Non-Hispanic White

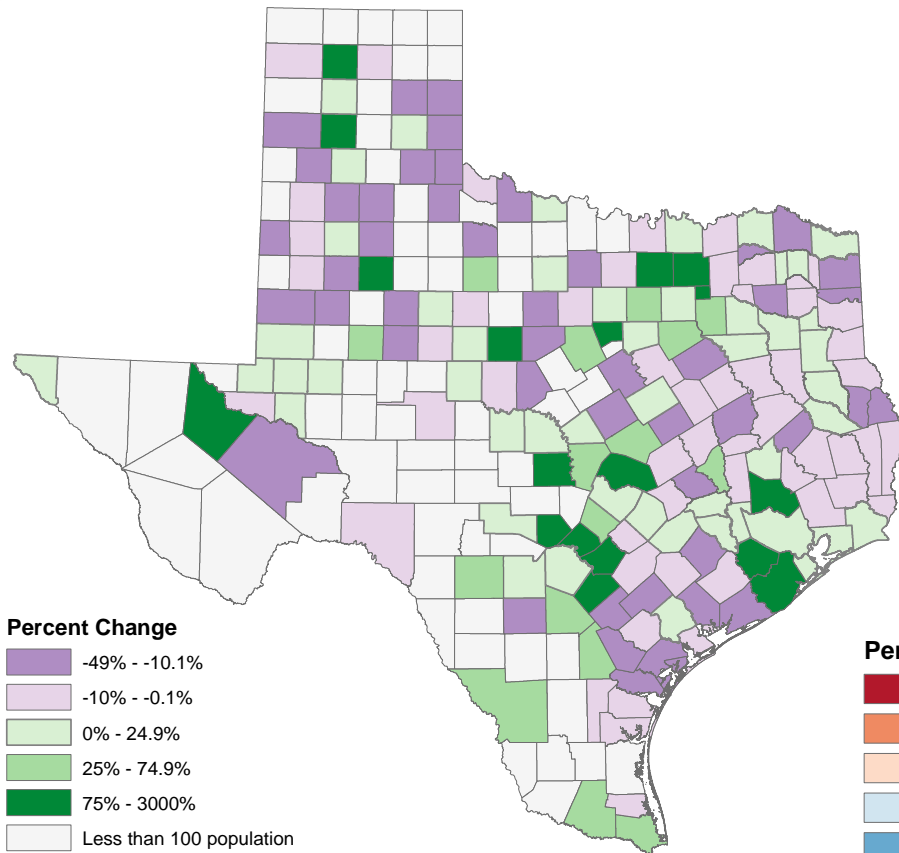


Hispanic

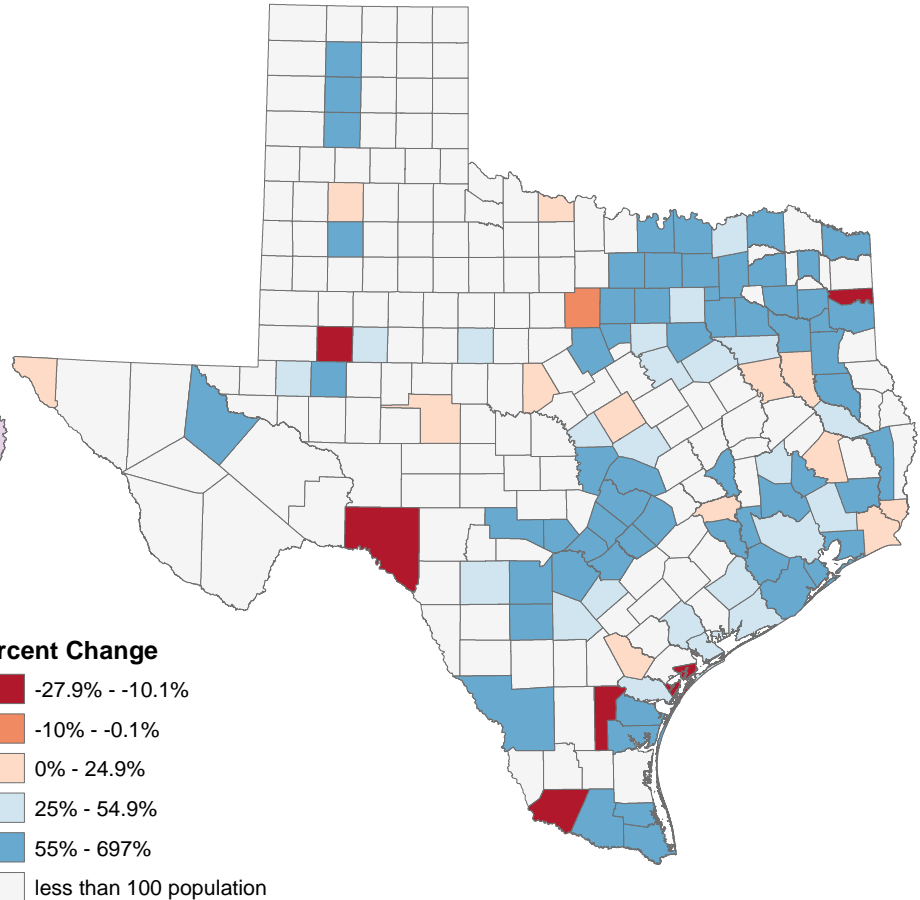


Percent Change in Population by County, 2000 to 2010

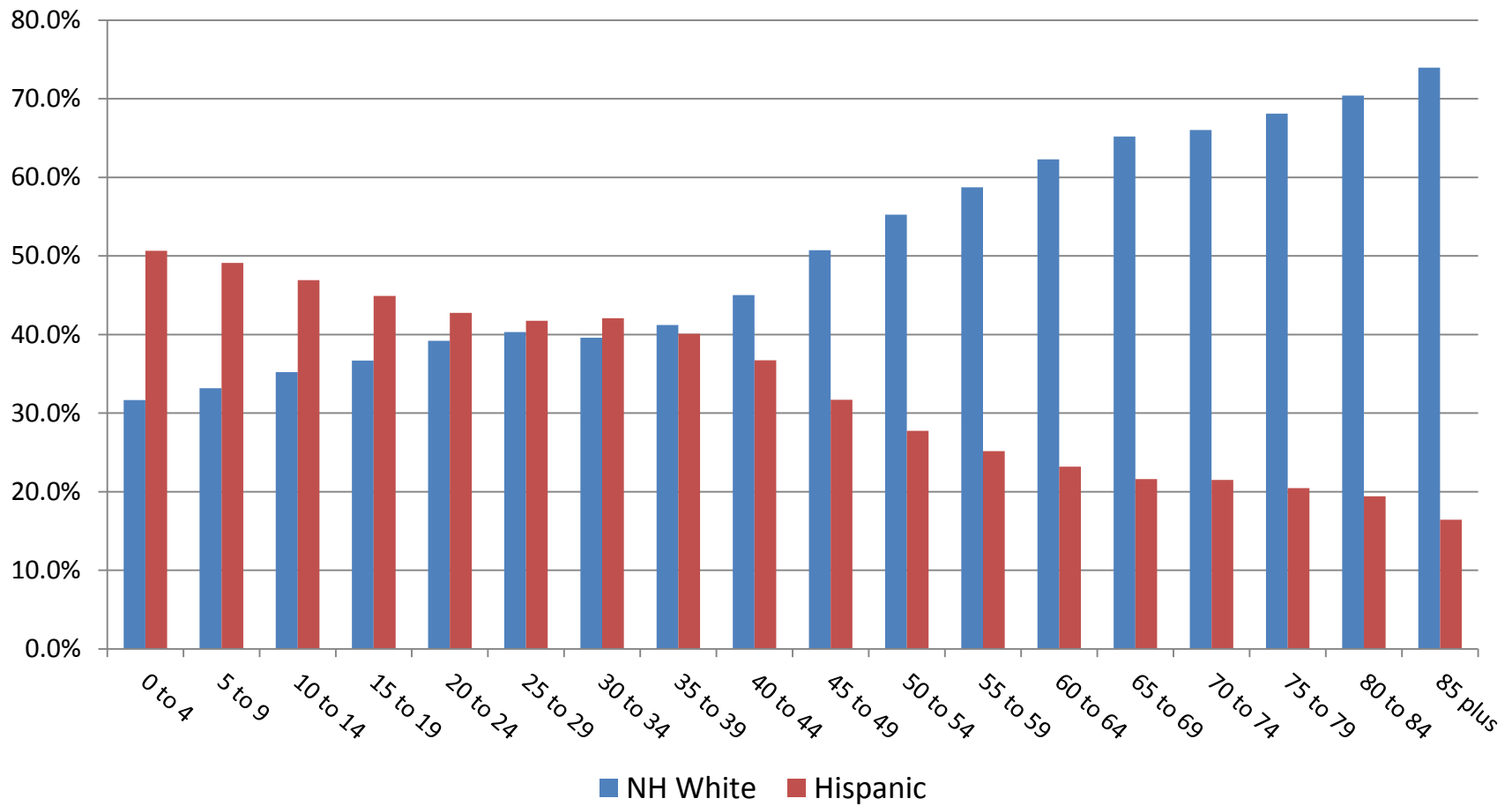
Non-Hispanic Black



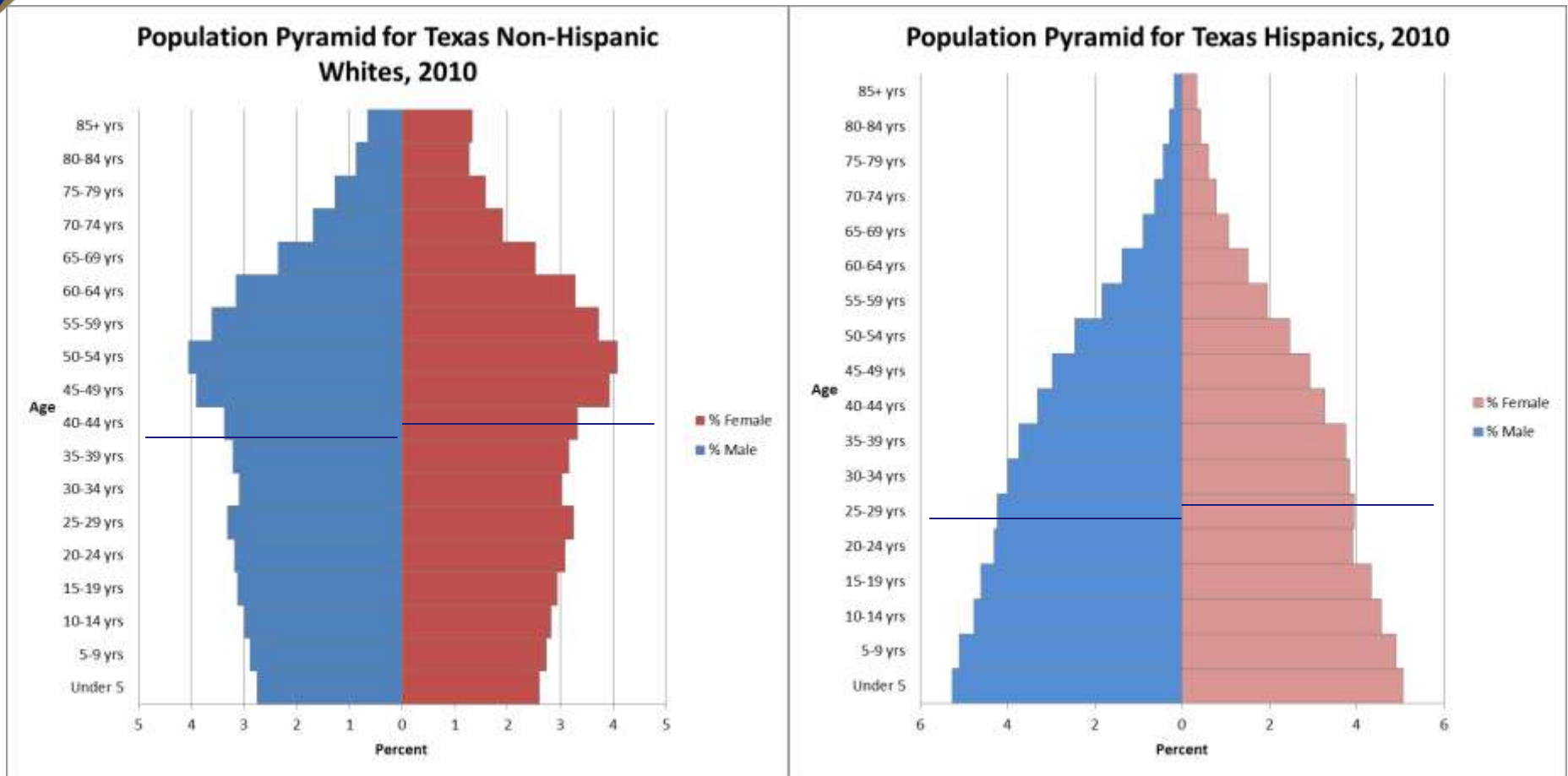
Non-Hispanic Asian



Percent of Texas Population by Age Group and Race/Ethnicity, 2010

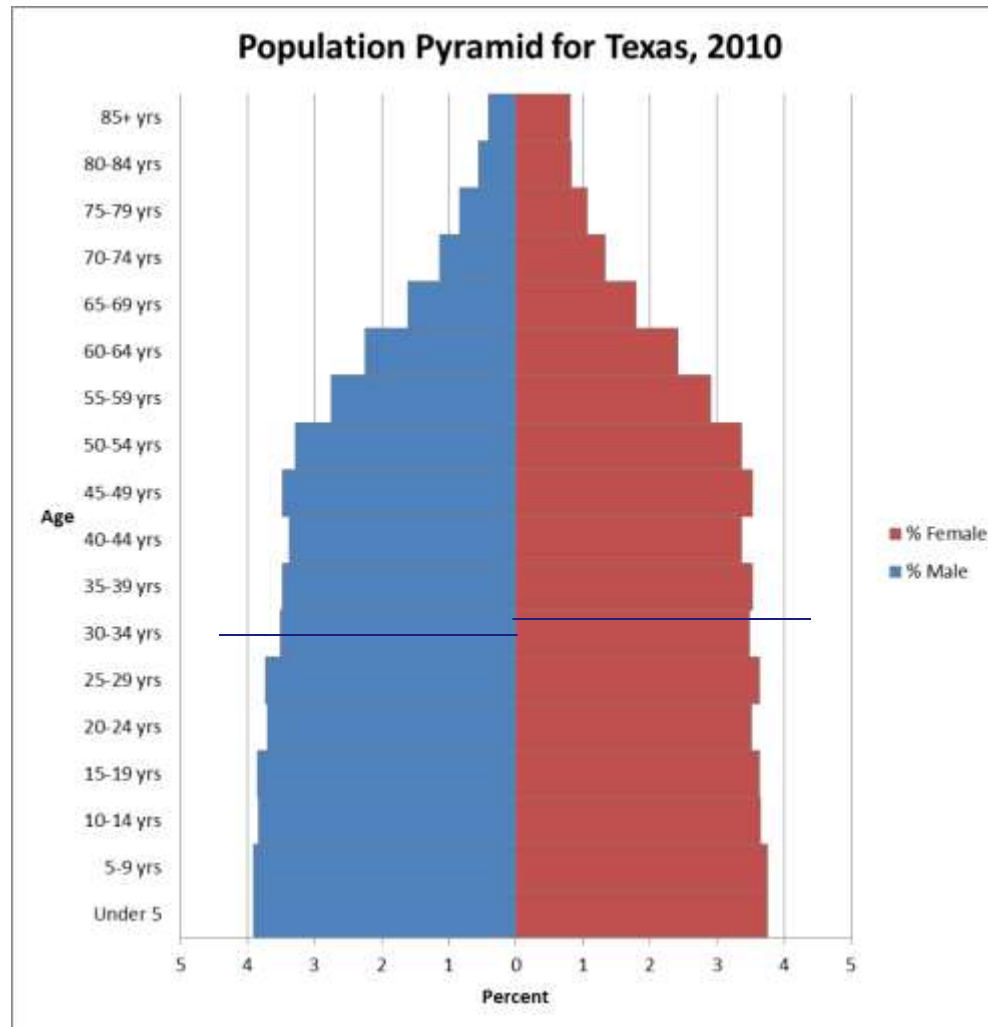


Texas Population Pyramids by Race/Ethnicity, 2010



— Median age

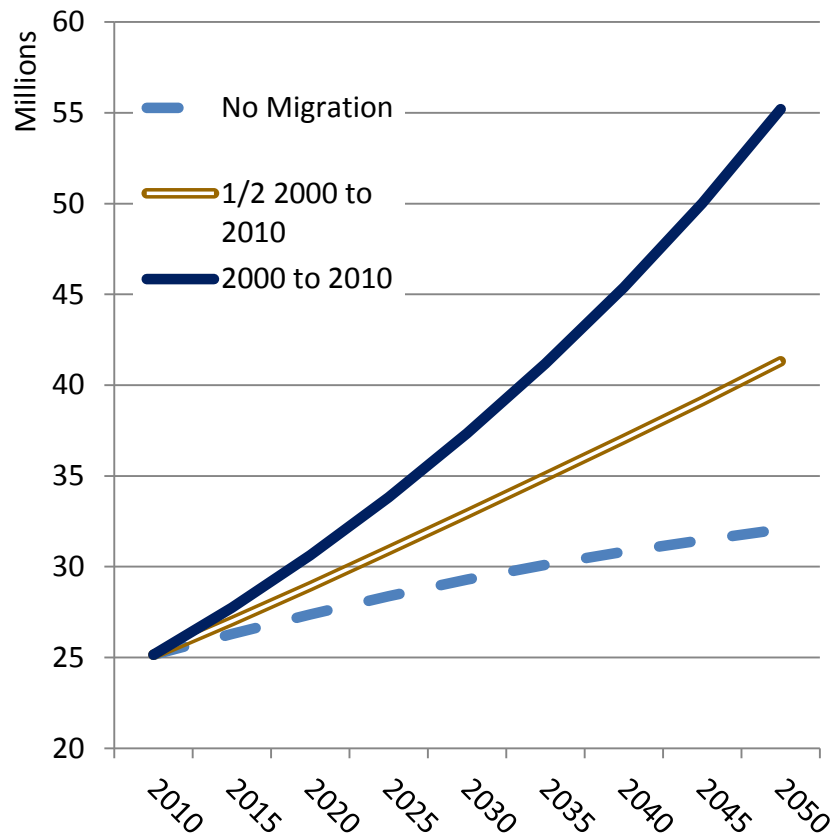
Texas Population Pyramid, 2010



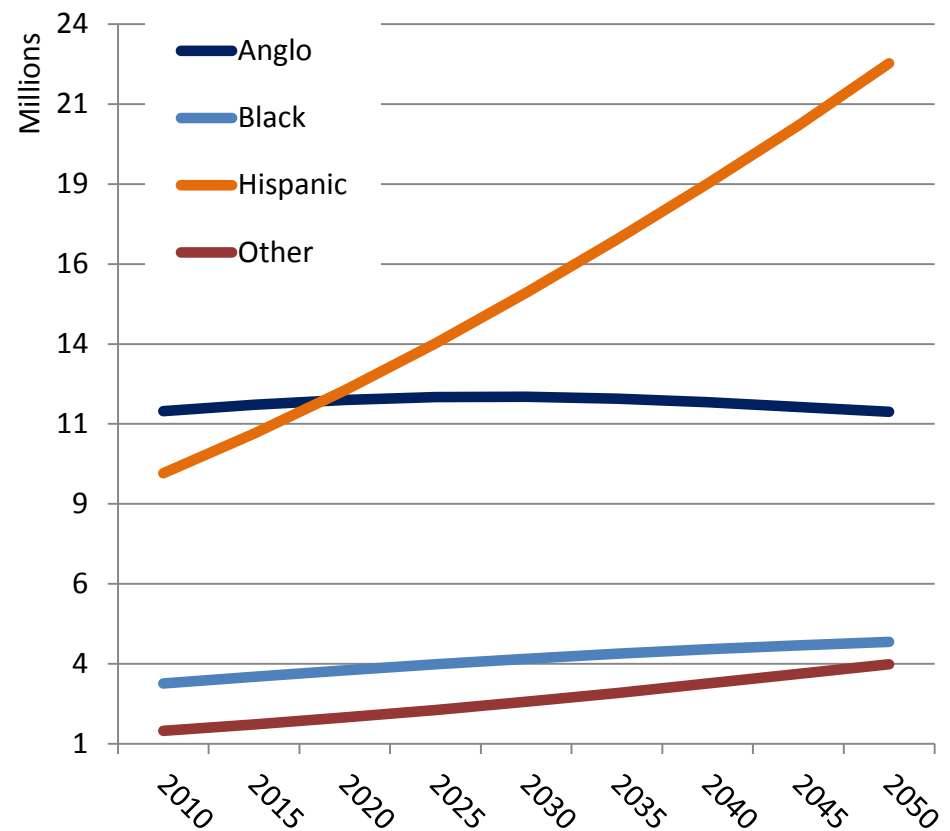
— Median age

Population Projections, 2010

Projected Population in Texas, 2010 to 2050



Projected Population for Texas by Race/Ethnicity, 2010 to 2050, 0.5 Migration Scenario



Projecting the educational attainment of the Texas labor force



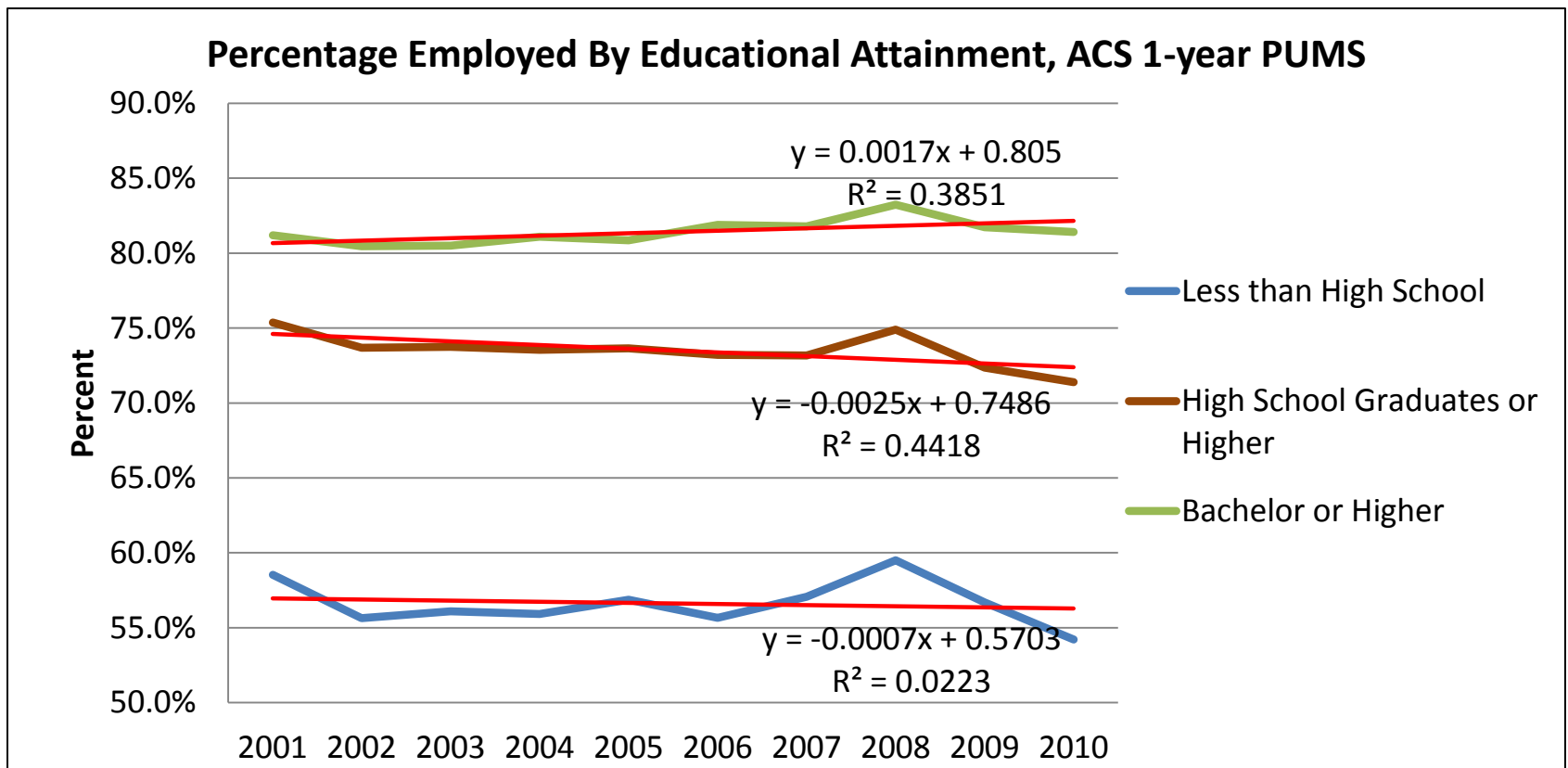


Background

- Texas educational attainment among those aged 18 to 64 is ranked low among the 51 states.
 - Ranks 51st in high school graduation, with 81.3% graduation from high school.
 - Ranks 37th in college graduation, with 23.6% graduating from college.

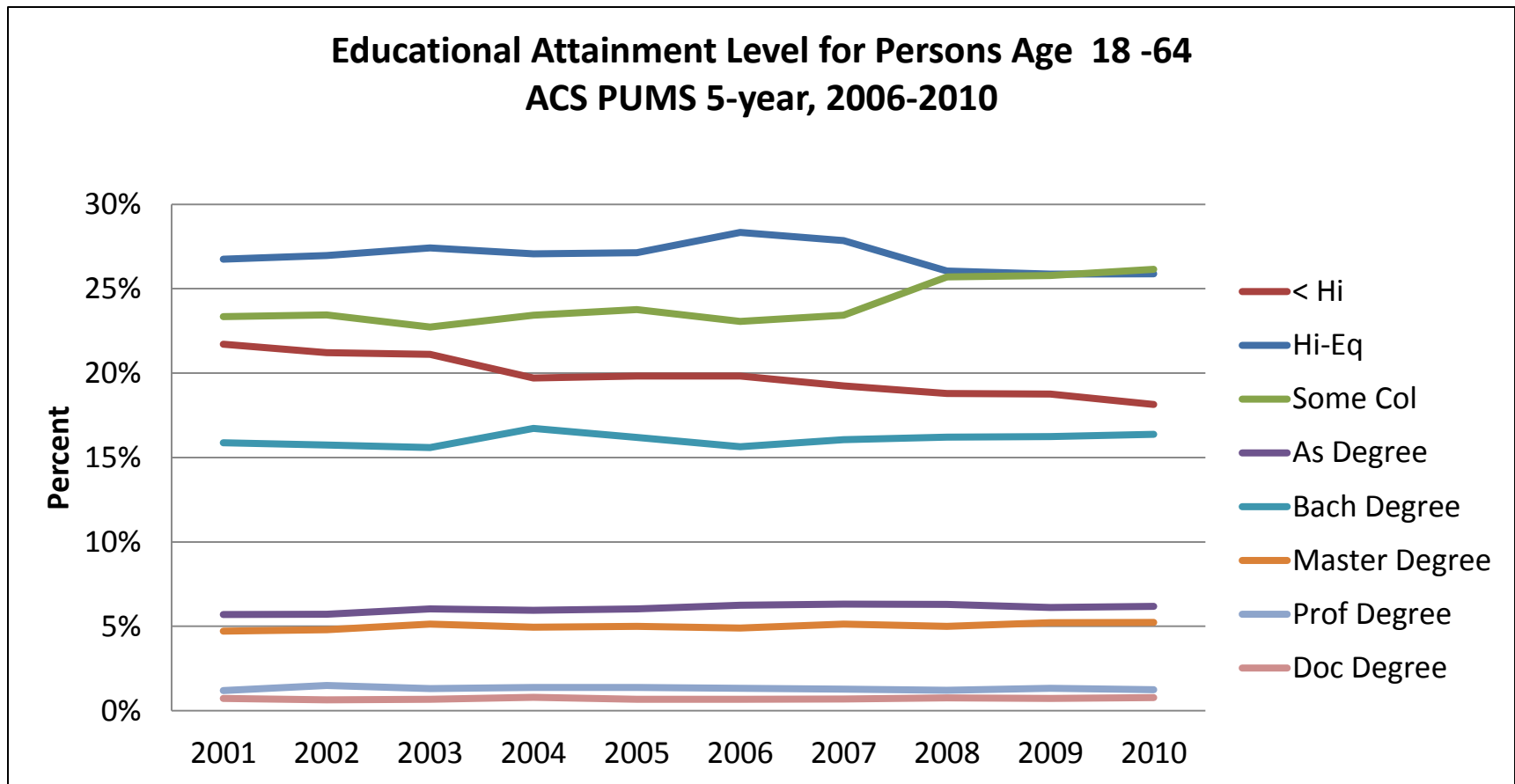
Background

Individuals with some higher education are more likely to be employed; trend suggests this gap may be widening.



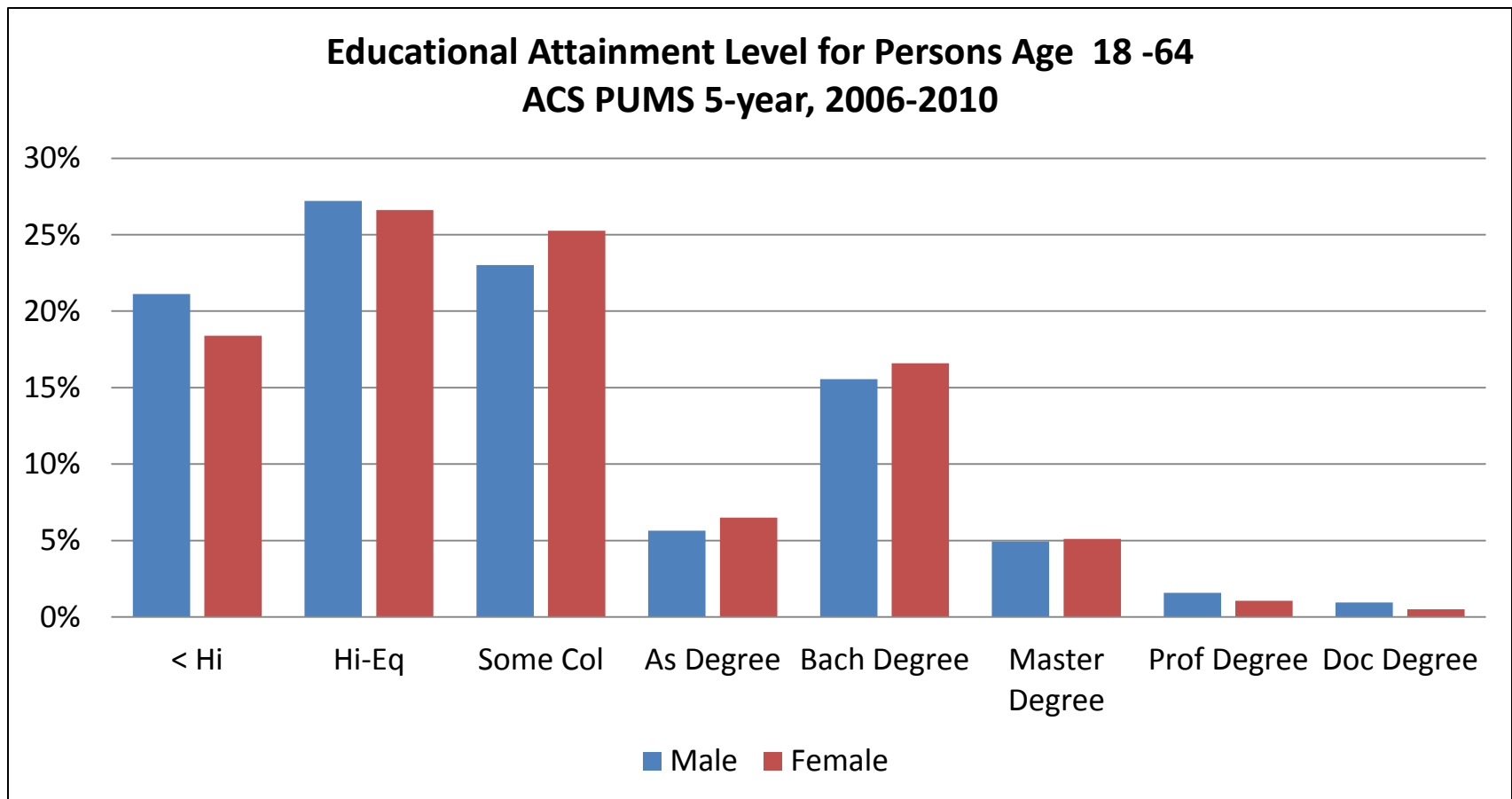
Background

Educational attainment has improved in the last 10 years.



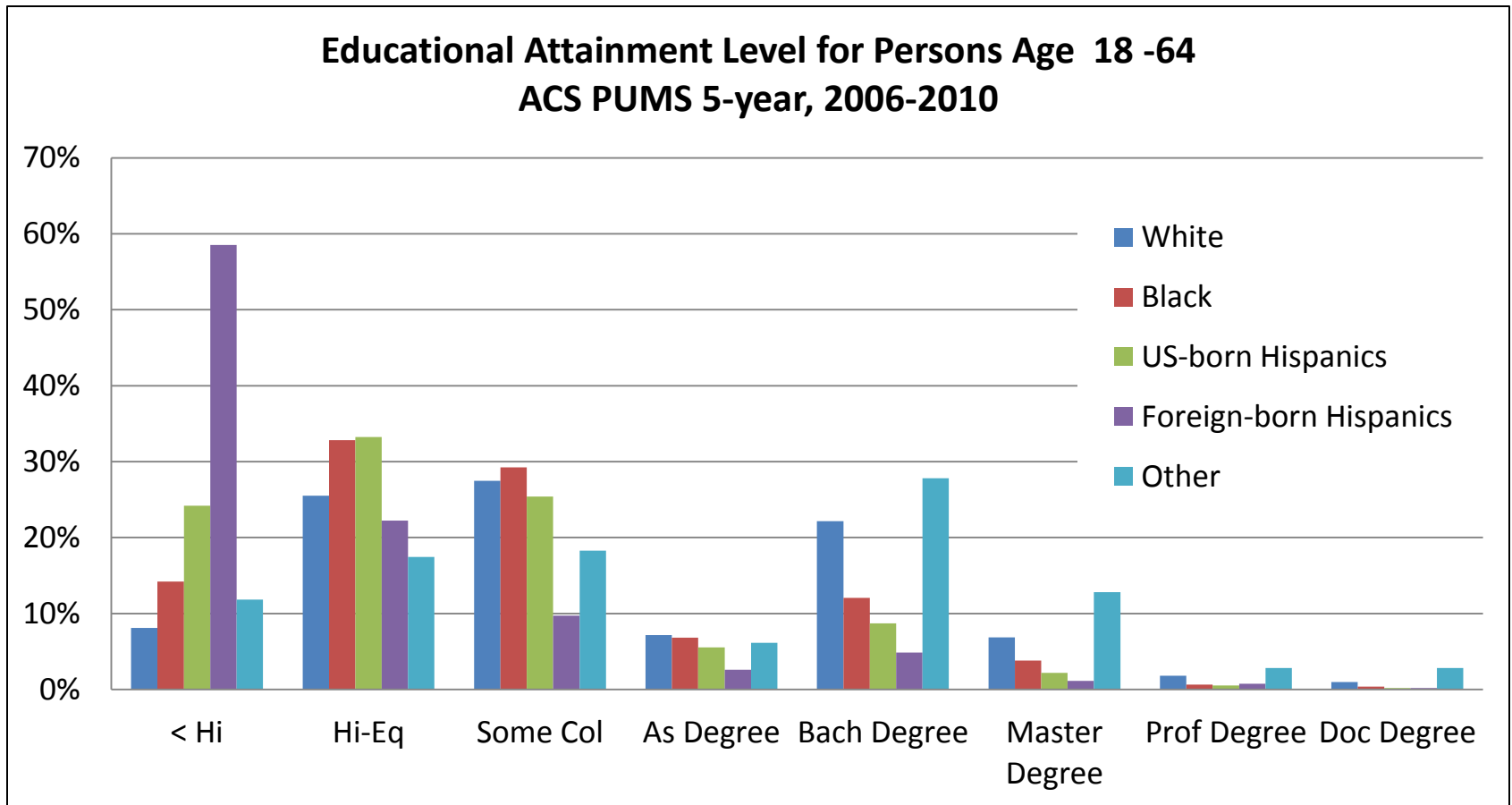
Background

Educational attainment improvements seen among most subgroups, but demographic differences are still pronounced.



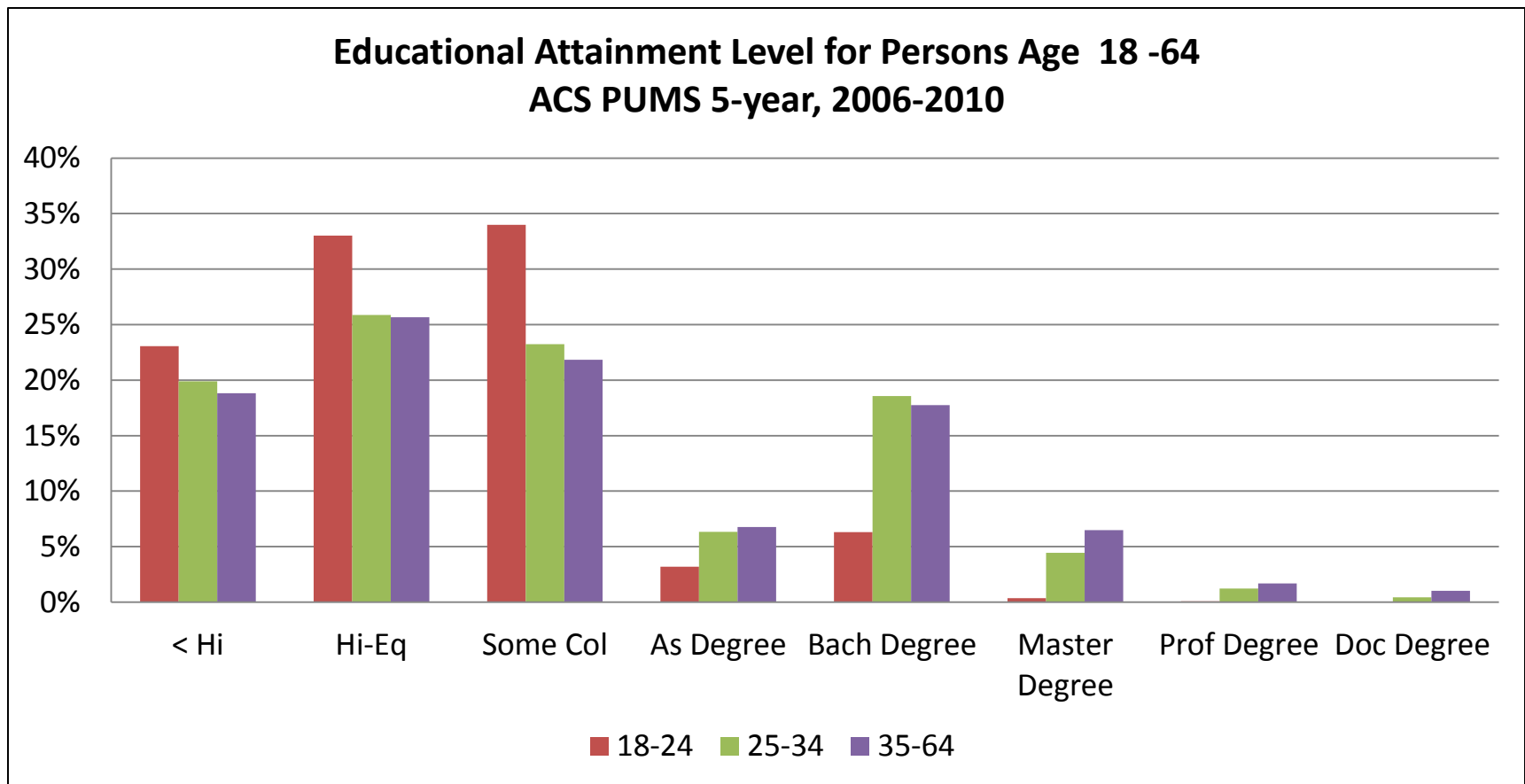
Background

Educational attainment improvements seen among most subgroups, but demographic differences are still pronounced.



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Educational attainment improvements seen among most subgroups, but demographic differences are still pronounced.





Data & Methods

- Data sources:
 - American Community Survey PUMS data 2001 to 2010
 - Texas State Data Center population projections data
 - Texas Workforce Commission occupation-education projection data
- Analysis plan
 - Multinomial regression model used to predict the rates of each educational attainment category for each demographic sub-group, based on historical trend and demographic characteristics
 - The predicted sub-group specific rates are applied to the population projections



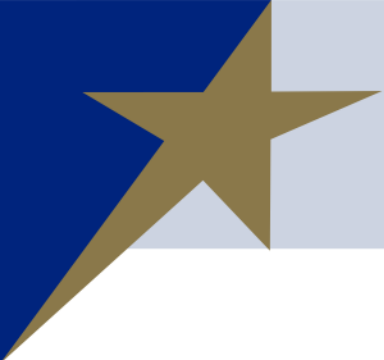
Findings

- Compare projected educational attainment of the labor force to required labor force for projected job needs
- Identify gaps between demand (by job type) for education and the supply (by the labor force)
- Specific educational attainment levels and population sub-groups can then be targeted to meet these needs
 - Tailored career paths in high schools, colleges, and vocational schools
 - Inform immigration goals for specific skill visas
 - Evaluate funding needed to meet goals of projected education levels needed in the labor force



Demographics & Destiny





Hans Rosling's The Joy of Stats BBC Four

<http://youtu.be/jbkSRLYSojo>

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